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ADMINISTRATIVE RECORD

1264130 - R8 SDMS

to comments & concerns expressed during comment period for proposed plan

Scott
Brown/MO/R8/USEPA/US

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To Susan Griffin/EPR/R8/USEPA/US@EPA, Bill Brattin
<brattin@syrres.com>

cc

bcc

Subject Soil, Blood, Air Pathway Study

The attached report came to my mind during the exchange with Ken Wallace, after your presentations on January 25. I am quite certain that you will find it useful. It provides us with a look at the dose-response threshold at a time when East Helena children's blood lead levels were still relatively high. Most importantly, the data (matched pairs of soil and blood data) were collected by Lewis and Clark County, in 1991, as part of a community-wide effort to update blood lead testing of children and compare to collocated soil lead data. A total of 224 children were tested and 53 of them were from addresses with known soil lead concentrations.

It is important to consider this: Our frame of reference during the late 1980s and early 1990s was very different from what we have come to understand more recently. That is,

(a) smelter emissions were being reduced by several means, but they were still well above the standard of 1.5 micrograms of lead per cubic meter of air (quarterly average). Records will show that in the late 1980s and early 1990s monthly averages were well into the range of 3.5 micrograms, with high readings above 10 micrograms. I recall that no one in the regulatory community, including myself, could have imagined then that Asarco might achieve the standard of 1.5. Therefore, as you examine the graphed 3-dimensional regression analysis be aware that we simply could not have conceived, in 1991 - 1993, of air quality in the range of 1.5 to 2.0 micrograms. Thus,

(b) no one in the regulatory community, including myself or Chris Weis, understood at that time that the air pathway might have been more important than the soil pathway. After Asarco achieved compliance, however, and then when the smelter closed for good in 2001, thus eliminating the air pathway completely, we finally began to understand that the soil pathway was not as important as the air pathway in terms of answering the questions: Why were children's blood lead levels so high back in the 1970s and 1980s? And, why did blood levels in East Helena drop significantly between 1989 and 1993 - 94, when the yard cleanup had just begun (only a handful of homes were completed by then) and the community-wide education and abatement program had not yet come into existence? (Look at the time trends graph over the entire period of record and note the significant drop between 1989 and 1993 - 1994. Only the air pathway was being reduced markedly at that time.)

We had believed then that soil lead levels were the major problem, but that concept no longer makes sense given what we now know.



Aug 1993 soil, blood, air using L&C BI-Pb data.pdf

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